

Mineral Industry Surveys

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TIN IN DECEMBER 2002

Domestic consumption of primary tin in December was estimated by the U.S. Geological Survey to be 1% higher than that in November and 1% lower than that in December 2001.

The Platts Metals Week average composite price for tin in December was \$3.02 per pound, the same as that in November and 4% higher than that in December 2001.

In recent years, many steel producers have declared bankruptcy, but have kept operating. Among these are two tinplate producers: Bethlehem Steel Corp. (Bethlehem, PA) and National Steel Corp. (Mishawaka, Indiana). Recent events involving these two producers offer some hope for their eventual survival:

- International Steel Group Inc. (ISG) (Cleveland, OH) offered about \$1.5 billion to buy Bethlehem Steel Corp., creating the largest integrated steel producer in the United States. The offer came on the final day of a 60-day period in which ISG had exclusive negotiating rights to buy Bethlehem Steel. It remains subject to the approval of the U.S. Bankruptcy Court as well as the approval of Bethlehem's shareholders. Bethlehem filed for Chapter 11 bankruptcy protection on October 15, 2001. If ISG is successful in acquiring Bethlehem Steel, it is likely to reconstruct the company in a manner similar to the reformation of the former LTV Corp. it acquired last year. Bethlehem's tin mill is located at its Sparrows Point, MD, plant (American Metal Market, 2003).

- The largest domestic integrated steel producer, U.S. Steel Corp., announced that it planned to acquire bankrupt National Steel Corp. for about \$950 million. If the acquisition goes through, U.S. Steel, which is also a major producer in central Europe with its U.S. Steel-Kosice operation in Slovakia, would emerge as the fifth-largest steel maker in the world. The purchase requires U.S. Steel to assume about \$200 million of National's liabilities. U.S. Steel's annual raw steelmaking capability is about 18 million metric tons (Mt) and National's is about 7 Mt. U.S. Steel has tin mills at its Gary, IN, and its East Chicago, IN, plants. National has a tin mill at its Portage, IN, plant (Platts Metals Week, 2003b).

In Indonesia, Koba Tin announced that it is considering building a new tin smelter on Bangka Island, off South Sumatra. Malaysia Smelting Corp. holds a controlling 75% stake in Koba, with PT Tambang Timah holding the remaining 25%. Koba currently has only two furnaces with a total design capacity of 12,000 metric tons per year (t/yr) of tin (Platts Metals Week, 2003a).

In Kyrgyzstan, the Kyrgyzaltyn organization, which holds the development license to the Lesisty section of the Trudovoye tin and tungsten deposit, announced that it is considering setting up a joint venture with Russia's Novosibirsk Tin Combine. The venture would involve developing the Lesisty deposit within the context of the economic cooperation program between Kyrgyzstan and Russia for 2000-2009. Kyrgyzaltyn is considering building a mill at the deposit with an annual

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capacity of 400,000 metric tons (t) to 500,000 t of ore. The State Geology Agency of Kyrgyzstan states that the entire Trudovoye deposit has reserves of 149,000 t of tin and 96,000 t of tungsten trioxide (Metal Pages, 2003§¹).

Reports from China, the world's largest tin producer, indicate reduced tin output and lower exports in 2002. In September, Yunnan Tin Industry Co. Ltd, the nation's top tin producer, suspended its Ausmelt furnace for about two months. China Tin Group, based in Guangxi, reduced 2002 output by 55% compared with 2001 because of the shortage of tin concentrates. China's exports of tin declined by 32% in 2002. For 2003, Chinese tin smelters are considering importing more tin concentrates to supplement the tight domestic supply following the shutdown of some rich tin mines in the Guangxi region. Yunnan indicated that it has been negotiating with PT Timah (Indonesia) for the importation of perhaps 10,000 t of tin in concentrates. Currently, 60% of Yunnan's tin concentrate feed is from its own mines. Tin production from the Nandan Dachang mining field in Guangxi Autonomous Region is expected to be only about 20,000 t/yr over the next 3 years due to a depletion of resources following many years of disorderly mining (China Metal Market, 2003).

Reports from China indicate that rich tin resources have been discovered in Qitianling, in the southern part of Hunan Province. Demonstrated tin reserves, which lie in the middle of the Nan Ling mountain range, stand at 500,000 t of tin while inferred tin reserves are estimated at 700,000 t. Also, a new tin prospect has been discovered in Jiangxi Province. Reserves there are estimated at 214,000 t and resources are thought to be 500,000 t (Tin International, 2003a).

Substitutions for lead in various applications are on the increase, often spurred by legislation. Fishing weights is one such use for lead where observable environmental damage may take place. In the United Kingdom, investigations in the 1970's and 1980's caused authorities to conclude that lead poisoning may have been a major influence in high swan death rates near fishing areas. As a direct consequence, the use of lead in fishing weights weighing between 0.6 and 28.3 grams (one ounce) was banned by legislation in the United Kingdom in 1987. Subsequently, the swan population has recovered. Although there are regional bans in parts of Canada and the United States, no other country has banned the use of lead-containing fishing

tackle. Some 2,700 t of lead fishing weights are estimated to be sold every year in the United States. Split lead shot comprises 50% of this market and it is this form that has the most damaging impact on waterfowl through ingestion. In 1994, the U.S. Environmental Protection Agency proposed a ban on the manufacture, sale and use of lead fishing tackle, but no Federal legislation has been enacted. In this application, as in many others involving lead, tin is one of the most obvious candidates as a lead replacement. It is non-toxic, low-melting, soft, and does not corrode. Tin is not as dense as lead, however, and it is more expensive. In spite of this additional cost, fishing weights and sinkers form such a small proportion of the cost of angling, that cost should not be a significant impediment. The density is the principal problem for tin. One significant advantage tin has over other materials is its reusability as split shot. Because it is soft and deformable and does not work harden, it can be pinched and unpinched onto the fishing line many times (Tin International, 2003b).

Update

On January 31, 2003, the Platts Metals Week composite price for tin was \$3.20 per pound.

References

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- China Metal Market, 2003, Lead and Zinc and Tin: China Metal Market, no. 76, p. 6.
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- Platts Metals Week, 2003b, U.S. Steel to buy National: Platts Metals Week, v. 74, no. 2, January 13, p. 3.
- Tin International, 2003a, Large new tinfields found in China: Tin International, v. 75, no. 10, January, p. 3-4.
- Tin International, 2003b, Non-toxic fishing weights: Tin International, v. 75, no. 10, January, p. 18-19.

Internet Reference Cited

- Metal Pages, 2003 (January 13), Kyrgyzaltyn and Novosibirsk mull tin and tungsten joint venture, accessed January 15, 2003 at URL <http://www.metal-pages.com/>.

¹References that include a section twist (§) are found in the Internet Reference Cited section.

TABLE 1
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

	2002			
	2001	November	December	January-December
Production, secondary e/ 2/	13,900	900	900	10,800
Consumption:				
Primary	34,200	3,060	3,080	37,200
Secondary	6,990	762 r/	761	9,380
Imports for consumption, metal	37,500	2,780	NA	NA
Exports, metal	4,350	239	NA	NA
Stocks at end of period	14,800	6,950 r/	7,290	XX
Prices (average cents per pound): 3/				
Metals Week composite 4/	314.88	301.54	302.37	XX
Metals Week New York dealer	211.48	202.10	202.78	XX
London, standard grade, cash	203.00	197.00	192.00	XX
Kuala Lumpur	200.77	191.69	192.76	XX

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to no more than three significant digits, except prices.

2/ Includes tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

3/ Source: Platts Metals Week.

4/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It is normally substantially higher than other tin prices.

TABLE 2
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

Period	High	Low	Average
2001:			
December	297.98	283.04	289.64
Year	359.89	262.81	314.88
2002:			
January	287.97	277.2	280.68
February	280.03	267.12	273.15
March	283.34	276.69	278.81
April	291.33	283.9	288.55
May	299.15	290.78	296.72
June	311.49	299.48	304.92
July	316.83	290.53	308.64
August	286.95	272.37	279.74
September	295.72	277.95	286.19
October	308.99	294.63	302.39
November	306.01	297.88	301.54
December	306.94	298.78	302.37

1/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It is normally substantially higher than other tin prices.

Source: Platts Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(Metric tons, unless otherwise noted)

Period	Tinplate waste (waste, strips, cobble, etc.) (gross weight)	Tinplate (all forms)			Shipments 2/
		Gross weight	Tin content	Tin per metric ton of plate (kilograms)	
2001	97,800	2,000,000	7,800	3.9	2,010,000
2001:					
December	3,880	136,000	668	4.9	130,000
2002:					
January	W	187,000	683	3.6	191,000
February	5,330	191,000	640	3.3	152,000
March	4,440	188,000	588	3.1	163,000
April	5,310	173,000	535	3.1	173,000
May	5,290	204,000	757	3.7	178,000
June	5,080	207,000	615	3.0	178,000
July	5,430	210,000	572	2.7	189,000
August	4,980	208,000	598	2.9	186,000
September	5,070	205,000	581	2.8	183,000
October	4,830	209,000	620	3.0	196,000
November	4,930	211,000	631	3.0	154,000
December	6,560	215,000	652	3.0	NA

NA not available. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to no more than three significant digits.

2/ Source: American Iron and Steel Institute monthly publication.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

Country or product	2001	2002		
		October	November	January- November
Imports:				
Metal (unwrought tin):				
Bolivia	6040	729	566	5560
Brazil	5510	425	400	4420
Chile	122	--	--	--
China	6360	381	498	7350
Hong Kong	20	--	--	--
Indonesia	3880	860	160	3220
Malaysia	674	1	--	102
Peru	14000	1590	1120	18200
Russia	143	--	--	21
Singapore	145	--	--	--
United Kingdom	118	--	--	2
Other	434	20	39	224
Total	37500	4010	2780	39100
Other (gross weight):				
Alloys	3830	126	419	3150
Bars and rods	539	14	23	181
Foil, tubes, pipes	1	--	--	(2/)
Plates, sheets, strip	529	1	3	128
Waste and scrap	3700	79	32	526
Miscellaneous	13900	169	195	7540
Total	22500	389	672	11500
Exports (metal)	4350	236	239	2620

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

Product	2001	2002						
		November			December			January- December 2/
		Primary	Secondary	Total	Primary	Secondary	Total	
Alloys (miscellaneous) 3/	W	124 r/	W	124 r/	124	W	124	1,660
Babbitt	770	18	18	36	19	18	37	502
Bar tin and anodes	570	13	W	13	13	W	13	192
Bronze and brass	2,790	85	95	180	72	96	168	2,390
Chemicals	7,590	630	W	630	630	W	630	7,550
Collapsible tubes and foil	W	W	W	W	W	W	W	W
Solder	16,800	841 r/	339	1,180 r/	871	339	1,210	14,500
Tinning	1,070	35 r/	--	35 r/	33	--	33	411
Tinplate 4/	7,800	631	--	631	652	--	652	7,470
Tin powder	W	W	W	W	W	W	W	W
White metal 5/	1,390	W	W	W	W	W	W	W
Other	2,390	78 r/	10 r/	88	61	8	69	1,110
Total reported	41,200	2,460	462 r/	2,920	2,480	461	2,940	35,800
Estimated undistributed consumption 6/	--	600	300	900	600	300	900	10,800
Grand total	41,200	3,060	762 r/	3,820	3,080	761	3,840	46,600

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes revisions to previous months' data.

3/ Includes terne metal.

4/ Includes secondary pig tin and tin components of tinplating chemical solutions.

5/ Includes pewter, britannia metal, and jewelers' metal.

6/ Estimated consumption of plants reporting on an annual basis.